

Title (en)

Process for producing optically active beta-hydroxyketone.

Title (de)

Verfahren zur Herstellung von optisch aktiven Beta-hydroxy-ketonen.

Title (fr)

Procédé pour la préparation de bêta-hydroxycétones optiquement actives.

Publication

**EP 0614871 A1 19940914 (EN)**

Application

**EP 94301766 A 19940311**

Priority

JP 7639193 A 19930311

Abstract (en)

A process for producing an optically active beta - hydroxyketone represented by formula (I): <CHEM> by catalytic asymmetrical aldol reaction comprises reacting a silyl-enol ether represented by formula (II): <CHEM> with a substituted aldehyde represented by formula (III): R<5>CHO (III) in the presence of a binaphthol-titanium complex represented by formula (IV): <CHEM> R<1>-R<5> are lower alkyl etc as defined in the specification. An optically active beta -hydroxyketone is efficiently produced with diastereo-specificity and enantio-specificity and is useful as an intermediate for preparing biologically active substances in the medical and pharmaceutical fields.

IPC 1-7

**C07C 45/51**

IPC 8 full level

**B01J 31/22** (2006.01); **C07B 53/00** (2006.01); **C07B 61/00** (2006.01); **C07C 45/51** (2006.01); **C07C 45/67** (2006.01); **C07C 67/333** (2006.01);  
**C07C 67/343** (2006.01); **C07C 67/38** (2006.01); **C07C 69/675** (2006.01); **C07C 69/708** (2006.01); **C07C 69/712** (2006.01);  
**C07C 69/732** (2006.01); **C07C 69/734** (2006.01); **C07C 319/20** (2006.01); **C07C 323/22** (2006.01); **C07C 327/28** (2006.01);  
**C07C 327/32** (2006.01)

CPC (source: EP US)

**C07C 45/511** (2013.01 - EP US); **C07C 67/343** (2013.01 - EP US); **C07C 327/28** (2013.01 - EP US); **C07C 327/32** (2013.01 - EP US)

C-Set (source: EP US)

**C07C 67/343 + C07C 69/738**

Citation (search report)

- [PX] CHEMICAL ABSTRACTS, vol. 119, no. 19, 8 November 1993, Columbus, Ohio, US; abstract no. 202959, MIKAMI K ET AL: "Enantioselective and diastereoselective catalysis of the Mukaiyama aldol reaction: ene mechanism in titanium-catalyzed aldol reactions of silyl enol ethers" & J. AM. CHEM. SOC. (JACSAT,00027863);93; VOL.115 (15); PP.7039-40, TOKYO INST. TECHNOL.;DEP. CHEM. TECHNOL.; TOKYO; 152; JAPAN (JP)
- [X] M.T. REETZ ET AL.: "Enantioselective C-C bond formation with chiral Lewis acids.", CHEMISTRY AND INDUSTRY, vol. 23, 1986, LONDON, pages 824
- [Y] K. MIKAMI ET AL.: "Asymmetric Glyoxylate--Ene Reaction Catalyzed by Chiral Titanium Complexes: A Practical Access to alpha - Hydroxy Esters in High Enantiomeric Purities.", JOURNAL OF THE AMERICAN CHEMICAL SOCIETY., vol. 111, 1989, GASTON, PA US, pages 1940 - 1941
- [Y] J.K. RASMUSSEN: "O-Silylated Enolates - Versatile Intermediates for Organic Synthesis.", SYNTHESIS., 1977, STUTTGART DE, pages 91 - 110

Cited by

CN102653520A; CN1293081C; US7067526B1; US7196192B2; WO0114387A1

Designated contracting state (EPC)

CH DE FR GB IT LI

DOCDB simple family (publication)

**EP 0614871 A1 19940914; EP 0614871 B1 19980610;** DE 69410856 D1 19980716; DE 69410856 T2 19981217; JP 3276707 B2 20020422;  
JP H06263682 A 19940920; US 5434289 A 19950718

DOCDB simple family (application)

**EP 94301766 A 19940311;** DE 69410856 T 19940311; JP 7639193 A 19930311; US 20837994 A 19940310